Nutrition Conference
May 1969
Easton, Md.

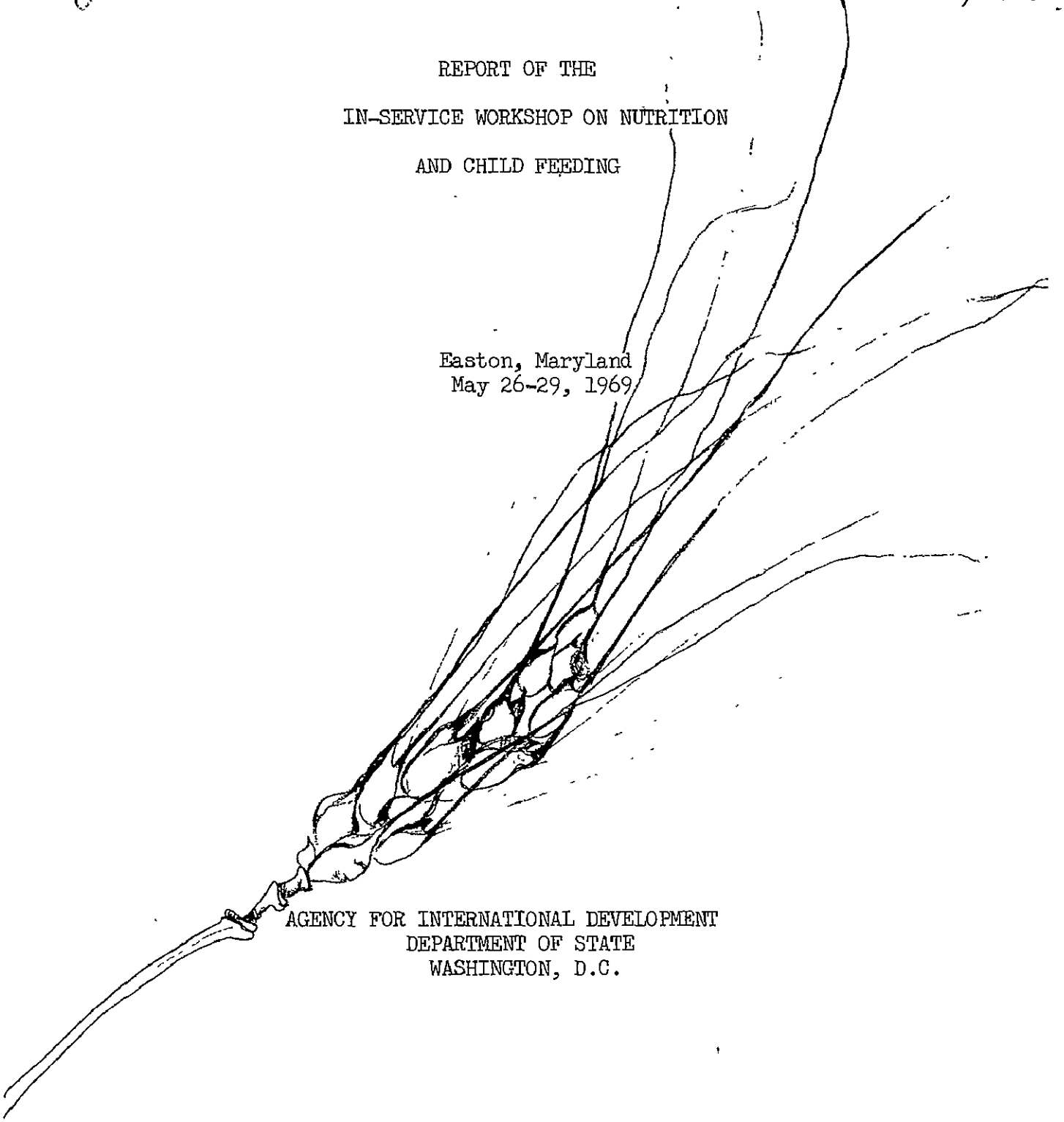
62

REPORT OF THE

IN-SERVICE WORKSHOP ON NUTRITION

AND CHILD FEEDING

Easton, Maryland
May 26-29, 1969



AGENCY FOR INTERNATIONAL DEVELOPMENT
DEPARTMENT OF STATE
WASHINGTON, D.C.

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In recent years there has been a growing awareness of and concern with the problem of malnutrition and the seriousness of its effects. Repetition of the vital statistics of malnutrition have begun to register.

-- One half of the children born in the developing countries die before the age of six, and malnutrition is the major direct or indirect cause.

-- Of those who survive, an estimated 50% are seriously malnourished.

-- In pre-school age children, the most widespread form of malnutrition, protein-calorie deficiencies, stunts growth and may also cause mental retardation.

National policy makers have begun to realize -- although very slowly -- that widespread malnutrition robs nations of human resource potential, and in so doing retards economic development.

In the middle of 1965, an inter-agency study group surveyed the problem as it affects the developing countries and recommended that AID launch a program designed to assist nations in reducing the incidence of child malnutrition. Subsequently, AID adopted the policy that combatting child malnutrition should receive high priority in programming, and a modest staff was assigned the task of implementing policy.

But there is a difference between policy and committment. The initiation of projects was a slow process. At a time when the Agency's funding was being reduced, it was difficult to initiate new activities which had to

compete with ongoing ones for funding. Country missions lacked nutrition-oriented personnel to develop projects and plead their cause. Within local governments, there was no urgent pressure for nutrition program assistance on a priority basis.

In spite of the problems, considerable progress has been made. Several USAIDs now have full time nutrition officers on board while others have someone concerned with nutrition questions at least part time. Here and there governments are beginning to shift their priorities, and an increasing amount of attention -- and resources -- is being brought to bear on the problem. The Agency has launched a modest, but effective research program. Manpower training and nutrition education programs are under way. A program to involve the private sector in exploring the feasibility of undertaking ventures to produce and market new protein foods has involved ten major U.S. food companies in promising projects. About to commence are the world's first field scale demonstration projects to study amino acid fortification of wheat, rice, and corn. International conferences have helped the spread of knowledge and program techniques. A dozen grants have been made to accelerate the pace of nutrition programming by U.S. registered voluntary agencies. Six U.S. professional societies have joined together in an AID-financed consortium to provide information and problem solving advice around the world. Broad national nutrition programs have been undertaken in several countries. New ideas are being explored in child feeding techniques and in local food formulation. Close coordination liaison has been established with the international agencies, and a blue ribbon advisory committee has been set up to guide AID in scientific and technical policy and program matters.

The pace of progress has been accelerating.

In mid-1969, it appeared timely to pause and assess AID nutrition activities -- to provide for a sharing of experiences -- to inform or refresh nutrition knowledge of personnel -- to evaluate -- and to determine guidelines and future directions for AID-sponsored nutrition activities.

Accordingly, the Office of War on Hunger convened a four-day In-Service Workshop on Nutrition at Easton, Maryland May 26-29, 1969. Selected USAID nutrition, health, Food For Freedom, and other personnel were joined by staff from AID/W, cooperating U.S. Government Agencies and a small group of outside experts. In all, some seventy persons participated in the Workshop. (A list of those who took part appears as Appendix E.)

The program was designed to address major issues. (See Appendix A), and the conference format permitted maximum discussion and participation by everyone present.

The following chapters represent a summary of the conclusions and recommendations of the Workshop.

NUTRITION AND FAMILY PLANNING

Relationship Between Programs

Nutrition and family planning programs can have a mutually reinforcing effect. For example:

A. Offering family planning within a MCH context which includes nutrition services can make family planning more acceptable, particularly for the harder to reach younger women.

B. Reduced child mortality resulting from improved nutrition may tend to lessen the desire to have a large number of pregnancies. (Further research on the nature of this relationship is needed.)

C. Assistance for family planning may be more acceptable to host governments where it includes efforts to improve health quality as well as to limit absolute numbers. This is particularly true in countries where the religious or cultural situation might make a program devoted solely to family planning unacceptable. (In some countries where a formal family planning program may not be possible at the present time in any form a MCH/Nutrition program may lay the basis for its establishment in the future.)

D. Effective family planning can result in both more food available for the smaller number of existing children and more time available on the part of the mother to see that existing children receive proper diet.

E. Economic development has as its objective improvement in the quality of life. Combatting malnutrition and promoting family planning both work toward this goal and can be promoted simultaneously.

F. Both family planning and nutrition programs can make use of the same infrastructure. Accordingly, the additional cost of complementing programs is relatively small.

Some Suggested Actions

-- Include nutrition education at family planning clinics. Nutrition education can be part of MCH services which also include family planning.

-- Distribute food commodities as an incentive to encourage participation in MCH/family planning programs. Food distribution and/or nutrition education may also be combined with other incentives such as health services. (In this connection the role of health education in helping prevent food loss from diarrhea and other enteric diseases should be noted.)

-- Use multiple outlets. Nutrition and family planning need not be promoted only at clinics. Other possibilities are through youth groups, mothers clubs, agricultural extension agents, and courses in elementary schools. Simple nutrition centers extended into the interior can serve as outstations for referral to family planning clinics or mobile units.

-- Training. Include a nutrition component in training for family planning workers and vice versa. (Success in changing attitudes is significantly enhanced by use of local workers

who are given short training courses and returned to their home villages as opposed to use of outsiders.)

-- Develop information programs which stress the benefits of both nutrition and family planning.

Summary Recommendations

Missions

-- Conduct review of present family planning, nutrition and other MCH activities to determine whether opportunities exist for, and benefits would accrue from, establishment or improvement of integrated nutrition and family planning activities.

AID/W

-- Establish a working group which would:

1. Make or arrange to have made a review of current knowledge on relationship between nutrition and family planning. Following such review make recommendations for further research or studies as may be indicated. Subjects might include:

   (a) relationship between decreased infant mortality and family planning motivation,

   (b) effect of improved family planning on child nutrition,

   (c) relationship nutrition and fertility,

   (d) lessons to be learned from successful family planning programs such as those in Japan, Taiwan, and Korea.

2. Make specific suggestions to particular Missions and where desired, organize program development teams to provide assistance.

MANPOWER TRAINING, NUTRITION EDUCATION AND TECHNICAL ASSISTANCE

This section discusses recources available and suggests some recommended activities.

I. Training

In order to carry out developmental programs in the field of nutrition, there is a need identified for manpower training at various levels in the following order of priority:

A. Local Training:

If such training can be performed within the country, this is the most desirable for reasons such as linguistic and cultural homogeneity and adaptation to local needs. A.I.D. should, therefore, support local institutions which already have, or may develop, technical capabilities for offering such training within the country.

B. Regional Training:

Where local technical capabilities and facilities have not reached a level to make in-country training possible, feasibility of establishing a center of excellence in one area to serve a geographical or cultural region should be examined. Support to such regional centers with technical personnel or financial inputs should be promoted. (Mexico's 3rd-country training program and Colombia's CRECENA can be cited.)

C. U. S. Training:

1. Until country requirements are met in local or regional institutions, there is a need to continue the nutrition training currently being offered in the U. S. (Columbia

University) However, the difficulty of having one course meet the needs of various countries is recognized and there is urgent need for adapting such generalized training in the U. S. to make it more utilizable in the developing countries after the participants' return. At the same time, more technical subject matter, such as food technology, could be provided through specific technical training at a higher level. Such training in the U.S. can meet three major needs of developing countries, at various levels:

a. Refreshing and updating nutrition information for personnel already trained in this field;

b. Providing middle-level training for personnel in non-specific jobs, but with emphasis on setting up training courses at home.

c. Providing specialized and intensive training for specific needs, for which specialized institutions may be identified to meet individual requirements.

2./ Another need which has become evident over the past years of A.I.D. efforts in the field of nutrition is the training of selected U.S. field personnel in related fields such as public health, Food for Peace, human resources and education, etc. Such personnel frequently have relatively little understanding of the important role nutrition can play in their

own programs, and a short but intensive training course (30 days) could provide basic technical information in nutrition and, more important, impart a concept of the need for integrating nutrition education into other programs, with a resultant multi-sectorial approach in Mission programming. In those Missions having substantial program activities in the field of nutrition, it is essential that there be available, either on a direct hire or contract basis, qualified nutrition-related personnel. However, in order for programs to evolve intelligently in other missions, it will be necessary to have (a) someone on board with basic capability to promote nutrition-related activities and (b) access to a competent consultant for technical back-stopping.

Summary Recommendations

Missions

-- Support the development of local training programs with the objective of immediate manpower training and the development of institutional excellence.

AID/W

-- Establish a short action oriented course for selected Mission personnel who are working in fields related to nutrition and who would be in a position to stimulate development of nutrition activities.

-- Support the establishment of regional training centers.

-- Continue for the present the special mid-level short course at Columbia University.

II. Nutrition Education Programs

Development of nutrition education programs can be considered with respect both to methods of reaching the mother and child and ways of reaching potential teachers of nutrition practices.

A. Direct Education:

Primary and secondary school students - nutrition education can be incorporated into the school curriculum concomitantly with the distribution of school lunches and other activities such as school gardens.

Mothers in MCH programs - nutrition education can be closely related to health education. Nutrition education can be included via demonstration and by use of audio-visual aids.

Mothers in "Mothercraft" centers - nutrition education is an outgrowth of the malnourished child's rehabilitation.

Mothers and other members of the family - nutrition education can be provided by extension agents and community development workers, using local clubs or other organizations where they exist.

Mothers and others - simple nutrition messages can be subjects of campaigns using the mass media. The imaginative use of non-conventional media should be explored in selected countries.

B. Training of Nutrition Education Personnel:

1. Nutrition education can be included in training courses for

non-diplomaed teachers, especially those in rural areas, so they may pass on such information to children in the primary schools. Since the vast majority of children in primary schools in the LDCs never get beyond the 4th grade, it is essential to reach these children during their brief schooling periods. Consequently the training of primary school teachers already teaching is of prime importance.

2. Nutrition education can be included in curricula of medical and nurses' training schools, another area which is widely neglected.

3. Nutrition education can be included in the training of rural extension agents and public health workers, who are often the only people who reach out to the grass roots level. The training of personnel at the lower levels such as health auxiliaries is often overlooked and should be emphasized.

C. Nutrition Education Materials:

There is a considerable body of materials published in various languages which can be used in carrying out nutrition education programs. New materials may be made available by RTAC and other Regional Information Centers providing interest by various Missions indicate need of sufficient quantities to make mass printing feasible.

Summary Recommendations

Missions

-- Incorporate nutrition education into primary and secondary education curricula.

-- Wherever possible incorporate nutrition education into other programs reaching the mother e.g. MCH, extension, etc. Programs with a primary nutrition objective e.g. mothercraft, mass media should also be emphasized.

-- Undertake evaluations of nutrition education programs.

AID/W

-- Serve as a clearing house and coordinating center to make useful locally-produced materials available to other countries.

-- Undertake an evaluation of nutrition education techniques.

III. Technical Assistance

Many excellent facilities are available to AID/W, such as the LIFE consortium, VITA, USDA, HEW and others for providing technical consultants for TDY assignments to USAIDs and host countries, with Missions underwriting only travel and per diem costs. Such consultation services are available to the USAIDs upon request. Host governments, Missions, and Voluntary Agencies, should be encouraged to utilize the services of this cadre of experts. The services of land-grant colleges, universities and other scientific bodies as well as of the private sector can also be requested, as required.

Summary Recommendations

AID/W

-- Provide to USAIDs a periodic compilation of technical resources available for assistance and information.

-- Identify and arrange for resource personnel to respond to requests for specific assistance from the field.

-- Establish Regional Nutrition officers to provide consultation services to those Missions without competent personnel on board.

IV. Involvement of Other Sectors

Other sectors can offer significant inputs in technical assistance, training, etc. These sectors may include:

A. U. S. private sector.

B. U. S. Voluntary Agencies.

C. The Peace Corps.

D. In-country volunteers (especially at university student level).

Summary Recommendations

Missions

-- As appropriate, explore new means of utilizing or expanding use of the Peace Corps in nutrition activities and in stimulating use of counterpart in-country volunteers.

AID/W

-- Continue support of LIFE consortium of scientific and technical organizations and expand as demand increases.

-- Continue support of program of incentive grants to U. S. Voluntary Agencies.

CHILD FEEDING

Maternal/Child Feeding - Priority I

Evidence that the under 5 year old group is likely to be physically and mentally most seriously affected by protein and other vitamin and mineral deficiencies has identified for A.I.D. a priority target group toward which programs need to be focused. To reach this very young group requires programs that reach the pregnant and lactating mother.

Traditionally A.I.D has distributed part of its PL 480 Title II commodity mix in the form of Non Fat Dry Milk and other foods to mothers and infants through maternal child health clinics, especially using the voluntary and international agencies. In the past few years, the fortification of NFDM with Vitamins A and D and the development of CSM have served to improve the nutritive value of food reaching this group, but these programs still vary greatly in quality with some programs merely operating as a dole while others have built in some tangible maternal/child health and nutrition education elements. These distribution programs can and should be used as a means of strengthening maternal-child health clinics which will then be better able to dispense a broader range of health services, including nutrition and family planning information. Food distribution programs can be used effectively as an incentive to the mother to bring the young hild to the health center.

Pre-school child programs, despite their high priority, have been limited by problems of distribution due to a lack of outlets. New

approaches to the problem of reaching this group are needed. For example, in some instances schools may be used as pre-school distribution points. Another possibility is to make greater use of MCH and/or Family Planning Service Centers, which, as indicated above, may also increase the effectiveness of these centers. The problem of distribution can also be alleviated by use of food or preparation techniques that do not require heavy time demands at the end points of distribution. Examples are biscuits baked at a central point or CSM products prepared in central kitchens.

The newer program to establish "mothercraft" or similar nutrition centers designed to reach the mothers is a promising new approach to reach vulnerable infants and preschool children (see appendix for a description of this new method). Since the program is still in its early stages it has not yet had the benefit of becoming adopted widely throughout any country. Its effectiveness is still to be proven, and the finding and training of sufficient numbers of helpers to extend this intensive approach is yet to be demonstrated. Nevertheless, since this method appears most promising, A.I.D. should assist appropriate countries in incorporating the concepts of intensive education in the use of local foods by mothers in existing MCH programs and to develop additional models of "mothercraft" center programs which go out beyond MCH centers.

Some Suggested Actions

-- Encourage incorporation of nutrition education in pre-school feeding programs. This can include use of posters

and pamphlets as well as demonstrations in food selection and preparation. The policy of giving increasing attention to requiring program sponsors to develop improved programs of maternal and child health, including nutrition education, as a prerequisite to approving grants of U.S. food for maternal/child feeding programs should be continued and accelerated.

-- Seek new means of making Food For Peace commodities available to pre-school children and pregnant and lactating mothers.

-- Develop additional models of the "mothercraft" center approach to nutrition education and feeding. In addition to use of this approach in its entirety, attention should also be given to the possibilities of adopting some of the programs successful techniques, such as intensive local food demonstration, to other feeding programs.

School Lunch Programs - Priority II

While the problem of malnutrition may be centered primarily in the preschool age population, primary school age groups should not be ignored in A.I.D. nutrition planning. School lunch programs around the world provide an important part of the daily nutritional intake of calories as well as of proteins of a large number of children. They are a convenient delivery system to reach large numbers. Evaluation of school feeding on a fairly broad scale is currently being undertaken in India.

Where these programs require an increasing local input of foods, financial resources and administration, they also strengthen the

institutional structure and thus provide a worthwhile Title IX device.

A nutrition component can be built into these programs through introducing vegetable gardens, through using nutrition education materials in the curriculum, and through providing an example of well balanced meals that create good food habits for the child and through him, the entire family.

Some Suggested Actions

-- Encourage incorporation of nutrition education in all programs.

-- Devote increased attention to self-help criteria and participation of the host countries. These programs should be designed with definite national and local phase up requirements, as has been done in Brazil and elsewhere.

Other Aspects

With the help of proper incentives, the local private sector may be able to produce and supply mass feeding programs with protein products at low cost. Provision of partial institutional markets may also make it possible for companies to sell such products commercially at prices within the reach of low income families. (Methods for encouraging involvement are discussed in report on Improved Foods - section on development of New Foods).

Negotiation of self-help criteria under PL 480 Title I and Title II provide a very important opportunity for developing increasing

host government commitment to nutrition programs.

Some Suggested Actions

-- Ensure that to the extent possible PL 480 Title I self-help criteria include nutrition objectives. To the extent feasible seek agreement on specific local currency programs. In this connection, it may be useful to make an analysis of the extent to which the most vulnerable groups, particularly in the lowest income segments are presently being reached, and if possible the specific deficiencies from which they suffer. This might then form the basis for urging the adoption of specific measures to alleviate the most critical needs.

-- Title I sales programs and Title II grant programs should also be used to encourage the adoption of fortification procedures. Cereals can be shipped in whole grain form with a requirement that the recipient countries enrich and/or fortify these products when they are milled. This will develop within recipient countries a commitment and technology to improve the nutritional quality of imported and locally milled foods.

Summary Recommendations

Missions

-- Seek strengthening of nutrition education component in feeding programs.

-- Explore use of new approaches to feeding such as improved means of reaching pre-school child, use of "mothercraft" centers,

incentives to private sector to supply protein elements.

-- Obtain greater host government commitment to feeding programs and other nutrition activities through PL 480 Title I and II negotiations.

AID/W

-- Assist field in exploration of new approaches to child feeding and nutrition education. Continue program of incentive grants to voluntary agencies to initiate and test new approaches.

-- In cooperation with Missions:

(1) Assist as appropriate in the development of nutrition components in PL 480 Title I self-help criteria.

(2) Explore feasibility of requiring shipment of cereals in whole grain form and of negotiating for enrichment and fortification of these products when they are milled.

IMPROVED FOODS

Agriculture

Promising breakthroughs are in process in breeding cereal grains for higher and better quality protein as well as for greater yields. Prospects for utilization of these varieties are good, pending results of more research and adaptive trials.

In addition, other improvements can be expected from shifts to production of particularly nutritious crops such as pulses. Work under way in these areas should be continued and expanded.

Some Suggested Actions

-- Ensure that adequate attention to local diet quality is given in development of agriculture programs, with respect both to improving quality of staples and to diversification. (Attention should be directed to both research and marketing price incentive aspects.)

-- Seek closer coordination between plant breeders and nutritionists to assure that specific diet requirements are adequately considered in the development of higher protein breeds.

Fortification

The fortification of cereal grain food products is now technically feasible, using vitamins and minerals as well as improving the protein quality through the addition of the appropriate amino acids or various protein concentrates. The economic aspects of fortification are likely

to present more difficult problems than the technological ones. The issues are whether the additional costs of fortification are to be met through government subsidy or whether costs are to be passed on to the consumer. The subsidy alternative presents clear budget problems for LDCs while increased selling prices may be difficult politically or market-wise, or both. Nevertheless, that such programs will gradually become quite common seems predictable.

Three amino acid fortification demonstration projects are currently being launched by A.I.D. on wheat in Tunisia, rice in Thailand, and corn in Guatemala. The results of these projects should be beneficial in (a) refining technological aspects, (b) determining economic feasibility, (c) confirming nutritional benefits, (d) determining long-range acceptability of fortified products by the consumer and, (e) providing a demonstration which may be adapted in other countries. Important research and operational work is also going forward in India. This includes the possibility of fortifying salt and tea with various nutrients. (Salt has the advantage of being milled in a few central locations but consumed by the rural as well as urban population, while tea is widely consumed at meal times.)

Some Suggested Actions

-- Undertake further trials to test the feasibility of fortification of grains with protein concentrates such as FPC.

-- Encourage testing of fortification of food staples other than cereal grains (such as tea, salt, and oils) should be encouraged.

-- Examine the possibility of developing national programs to eliminate specific deficiencies; e.g. goiter through iodization of salt, blindness through Vitamin A fortification and bone deterioration through calcium fortification.

New Foods

Development of new food should be encouraged by promoting greater particpation of the private sector. A.I.D.s High Protein Food Studies Program has played an important role in stimulating interest on the part of U.S. companies. In addition, attention must be given to means of stimulating involvement of local food companies.

Some Suggested Actions

-- Encourage local government purchase of new protein foods for child feeding programs and similar uses. This would provide a very significant assist to commercial production by furnishing an assured market for a limited time period for part of the production. Products purchased could be produced either by local or U. S. firms.

-- Provide technical assistance to local firms interested in developing new foods.

-- Develop a Protein Foods Incentive Program for local food companies similar to the Hi-Pro Program for U. S. companies.

-- Consider the possibility and desirability of organizing government-private sector workshops.

(The pattern employed successfully in India could be used where a conference of private business, government planners and key members of the scientific community was held. The meeting was followed by formation of a Protein Foods Association to assist and promote efforts of the private sector.)

Summary Recommendations

Missions

-- Review emphasis accorded in agriculture programs to improvement of the quality of local diets.

-- As appropriate, explore advisability of developing fortification trials as an approach toward elimination of deficiencies in target groups.

-- Explore use of incentives and existing loan programs to promote production of protein foods by the local private sector.

AID/W

-- Review overall research/action effort to dtermine specific actions which could be taken, either generally or in particular locations, to accelerate breakthroughs in use of high protein staples or other crops.

-- Explore possibilities of developing trials of additional fortification techniques to supplement work being undertaken with lysine; e.g. protein concentrates such as FPC, and review possibilities for promotion of use of other carriers; e.g. salt to combat vitamin and mineral deficiencies.

-- Develop a program to provide incentives to host country food companies to encourage the development and production of low cost protein foods. (This activity would complement A.I.D.'s present High Protein Studies program to stimulate development of new foods by U. S. companies.)

COUNTRY PROGRAMS TO COMBAT MALNUTRITION

Countries vary in their readiness to view malnutrition as a serious and complex problem and in their development of food and nutrition policies and programs. A.I.D. should be prepared to offer technical assistance on a project basis for the purpose of assisting countries to advance to greater or more effective capability for solving malnutrition problems. In those countries where there is sufficient interest and technical expertise for comprehensive nutrition programming, A.I.D. should offer to provide Nutrition Program Development Teams to develop and implement programs. Outlined below is an approach to development of a general program utilizing such a team as a first step.

A team would normally look at such factors as the following:

a. Present state of nutritional health of the population, indentifying the most significant deficiencies diseases and assessing alternate action programs for their correction.

b. Present state of food production within the country, identifying adjustments necessary for achieving balance, both in quality and quantity of food available or readily producible.

c. Present state of the infrastructures in agriculture, health, education, science, and community development for identifying the country's capability to launch a multidisciplinary attack on malnutrition.

d. Present state of food transport, processing, storage, distribution, and marketing infrastructures to identify the capacity of

the country to achieve a delivery system for provision of balanced food mixtures to the consumer.

As a general policy, teams of technicians assembled to accomplish the above should be sufficiently broad, technically, to seek out the pertinent technical data as the basis for reaching judgments as to the country's capability and interest in launching a comprehensive program. The Program Development Teams need also to assess the current A.I.D. Mission policies and programs in order to identify the interactions or over-laps of a comprehensive nutrition program with existing projects or programs in Agriculture or Rural Development, Health and Social Welfare, Food for Peace, Family Planning, Public Administration, Education, Community Development, Manpower Development, etc.

Should a development team's study and analysis lead to country and mission interest, the next phased input would be the drafting of a comprehensive nutrition program. Through contract or through in-house expertise, program planning can proceed, utilizing the background of information furnished by the team and with host country technicians as a resource for further identifying the major nutrition problems and alternatives for their solution.

In the development of a program, elements such as the following would be considered: identification of local leadership, the formulation of national food policies, and the various alternatives that may be open for arriving at a least-cost solution to the malnutrition problem.

Alternatives singly or in combinations that might enter into consideration might be: (a) enrichment or fortification of staples; (b) promotion of legume production for achieving nutrient balance, particularly for protein, and introduction of higher quality staples; (c) initiation of feeding programs to reach vulnerable target populations, such as pregnant women and pre-school children; (d) formulation of nutritionally complete food supplements or food blends through the local food industry, and (e) development of nutrition education programs which may include utilization of communications media for the propagation of program targets.

The technical expertise, whether through contract or in-house, should serve as the continuing source of technical assistance for program implementation and for a continuing evaluation of its relationship to other A.I.D. programs and policies. Without such continuing, on-board, technical expertise, a comprehensive attack on the malnutrition problems of the developing countries will not assume its proper place among assistance objectives.

Summary Recommendations

Missions

-- Are urged to review country situations to determine whether a useful purpose could be served by a team review which could identify opportunities and components of a general program. Alternatively, Missions may wish to consider the desirability of a more limited review of an area or areas where the possibility of a significant initiative may exist.

AID/W

-- Should be prepared to organize teams to carry out such reviews as may be requested. (Resources available for such teams include, AID/W staff, USDA, HEW, LIFE, IESC and Universities and Land-Grant Colleges. In addition, A.I.D. field personnel engaged in nutrition programs will be asked to participate.)

THE COST AND BENEFIT OF ALTERNATE APPROACHES: TOWARD AN APPROACH

The number of ongoing nutrition projects is increasing, and here and there projects are being considered as part of a country nutrition program. Attention should be given to extending this approach wherever possible.

There is, however, a need to relate such programs to the overall development goals of countries (and to greater relate the AID nutrition program to AID development goals). In order to do this, it is necessary to know:

(1) the benefits of programs and their project component,

(2) the costs of programs and activities,

(3) the relationship of nutrition activities to other development activities (in terms of the degree to which they complement, support, or contradict.

This information is a pre-requisite to intelligent decision making with respect to what alternative activities should be undertaken and their relative magnitude. To date, the criteria for such decision making has been relatively subjective, and tradition, hunch, and bias have played an undue role.

It is now timely to attempt the formulation of a systematic approach to the selection of alternate strategies and activities. In so doing, it is important to identify short term vs. long term objectives and to establish a rationale for aiming at short term goals. It is also necessary to identify costs and benefits in indirect as well as direct terms. (For example,

benefits may be social and political as well as economic. They may be measured in terms of increased potential for physical work and intellectual activity as well as in terms of monetary savings as a result of reduced hospital and welfare outlays.) Also, it will be necessary to examine alternative approaches to problem sovling (i.e., fortification of cereals vs. genetic breeding) and alternatives within approaches (i.e., fortification with amino acids vs. various protein concentrates).

Current attempts to devise a systems approach to combatting malnutrition reveal the inadequacy of valid evaluation data. This is an area that requires greater attention and should be vigorously pursued.

The development of a systems approach to combatting malnutrition should receive high priority, and techniques for ascertaining costs and benefits need to be developed. The need for cost-benefit data will increase as national policy makers, finance ministers, (and AID Mission Directors and program officers) begin to give greater consideration to undertaking expanded nutrition activities. In the meantime, in the absence of such data, the expansion of nutrition-related activities should continue since the sum total of such activities is miniscule when compared to the magnitude of the need and since there will continue to be a need for evaluated models of nutrition-related activities.

Summary Recommendations

MISSIONS AND AID/W

-- Develop and conduct evaluations of various nutrition-related activities to enhance the Agency's "memory bank" in this area and to provide a basis for decision making with respect to the nature and magnitude of projects.

AID/W

-- Develop and conduct, in cooperation with selected missions a study of costs and benefits of alternate approaches to be followed by (or to be part of) a project to design a systematic approach to combatting malnutrition.

APPENDIX A

A.I.D. In-Service Workshop on Nutrition and Child Feeding

Tidewater Inn - Easton, Maryland

May 26 - 29, 1969

P R O G R A M

MONDAY, May 26

8:30-8:45 A.M.	Introduction: Purpose and Format of the Workshop -- Martin J. Forman, WOH/NCF
8:45-9:15 A.M.	Combatting Malnutrition as Part of AID's War on Hunger -- Irwin R. Hedges, AA/WOH
9:15-10:15 A.M.	Malnutrition in the U.S. -- Gerald Combs D/HEW
10:15-10:30	Break
10:30-11:30	Nutrition Programs in the U.S. -- O.L. Kline, American Institute of Nutrition
11:30-12:30 P.M.	Programs of the International Agencies -- Mrs. Andromache Sismanidis, D/HEW and WOH/NCF
2:00-2:45 P.M.	Relationship Between Family Planning and Child Nutrition Programs
	Panel Chairman: E. Randall Backlund, WOH/PS
	Panelists: Elton Kessell, Pathfinder Fund Nicholas Cunningham, Johns Hopkins Univ. James K. Shafer, AID/EA/TECH R. Wade Jones, NESA
	Panelists will each discuss subject from viewpoint of his experience.
2:45-3:30 P.M.	Open discussion among panelists and delegates
3:30-4:00 P.M.	Coffee Break

Monday, May 26 (Continued)

4:00-5:30 P.M. Delegates and panelists meet in groups and prepare observations on the topics assigned below:

Group 1 - Subject: Identify evidences of the relationship between nutrition and family planning programs.

Members:
James Levinson, Chairman (India)
Denny Scott (Philippines)
Gordon Brockmueller (Tunisia)
Marion Frazao (Brazil)
R. Wade Jones, Panelist

Group 2 - Subject: Identify methods of using food-nutrition to advance family planning.

Members:
John S. Alden, Chairman (Morocco)
Charles Putkammer (USDA) (India)
William S. Smith, M.D. (Thailand)
Nassib Hemaidan (Tunisia)
Peter Davies (Brazil)
Buddy Dodson (D.R.)
Richard Apodaca (Peru)
James Shafer, Panelist

Group 3 - Subject: Identify methods of using family planning to advance nutrition programs.

Members:
R. W. Engel, Chairman (Philippines)
Alfonso Dominguez (Pakistan)
Ain Kivimae (Indonesia)
Roger Sprowls (Nigeria)
Charles Gill (Bolivia)
Charles Mettam (Guatemala)
David Amato (Mexico)
Nicholas Cunningham, Panelist

Group 4 - Subject: Identify the operations and delivery points through which family planning and nutrition programs might be jointly administered.

Members:
Frederic Thomas, Chairman (Jordan)
William Pearson (Senegal)
Judy Constable (Ghana)
Gordon Prouty (Chile)
Isaiah Jackson (Vietnam)
Elton Kessel, Panelist

TUESDAY, May 27

8:30-12:30 P.M. — Nutrition Education, Training, and Technical Assistance (Resources, Techniques, Evaluation)

Chairman: Kenneth Levick, PPC/TA
Speaker: Samuel Weisberg, Executive Director, League for International Food Education

Panel: Mrs. Andromache Sismanidis
Mr. David Amato, USAID/Mexico
Dr. Guy Livingston, Columbia U.

2:00-6:00 P.M. — Child Feeding - (Techniques to reach vulnerable groups, evaluations, costs)

Chairman: R.W. Engel, Ph.D., VPI, Nutrition Contract Team, Philippines

Speaker: Kendall King, Assistant Vice-President, Grants, Research Corporation - New York City

Panel: Frank R. Ellis, WOH/FFF
Peter Davies, USAID/Brazil
James Levinson, USAID/India

WEDNESDAY, May 28 — Improving the Nutritive Quality of Foods

(a) 8:30-10:30 A.M. — Diversification of Agriculture and the Genetic Approach (Status, Prognosis, Economics)

(b) 10:45-12:30 P.M. — Fortification (Techniques, Economics, Programs in Process)

2:00-3:45 P.M. — Fortification (Ingredients)

-- Vegetable Protein Concentrates
-- Fish Protein Concentrates
-- Amino Acids

(c) 4:00-6:00 P.M. — New Foods (Commercial Involvement and the Government Role)

Wednesday, May 28 (Continued)

Chairman and Speaker: Dr. Aaron Altschul, USDA/IADS

Panel: E.E. Howe, Scientific and Technical Advisory Committee member

James Levinson, USAID/India
Samuel Weisberg, LIFE
George Parman, WOH/FFS
Alvin Ayers, WOH/ARDS
Howard Sprague, Consultant, WOH/ARDS

Thursday, May 29

8:30-12:30 P.M. — The Costs and Benefits of Alternate Approaches: Toward an Approach

Chairman: Martin J. Forman, WOH/NCF

Speaker: Sidney Cantor, Cantor Associates

Panel:
Harry Lennon, WOH/PES
James Levinson, USAID/India
Lyles Shertz, USDA/IADS
Dan Rosenfield, USDA/IADS
Sol Chafkin, Amer. Technical Assistance Corporation
Howard Sprague, Consultant, WOH/ARDS
Leonard Kornfeld, USAID/Tunisia

2:00-4:00 P.M. — Conclusions and Recommendations

Chairman:
Martin J. Forman
R. W. Engel
Nassib Hermaidan
Mrs. Marion Frazao
Peter Davies
James Levinson

APPENDIX B

MALNUTRITION IN THE UNITED STATES

Dr. Gerald F. Combs

SUMMARY

The ongoing nutrition survey under the aegis of HEW is designed to assess the nutritional status of the American people. Data from 12,000 individuals living in low-income areas in Texas and Louisiana have been analyzed. These preliminary data indicate that malnutrition exists in the United States.

Clinical symptoms of malnutrition have been found:

(a) Approximately four percent of the 0-6 year olds (about 1/5 the total group) showed evidence of Vitamin D deficiency; 18 cases of rickets were diagnosed.

(b) Four to five percent of the subjects exhibited symptoms of protein and/or caloric malnutrition.

(c) Five percent had enlarged thyroid glands associated with low iodine intake.

(d) Eight cases exhibited symptoms of severe Vitamin A deficiency. In addition to clinical symptoms of malnutrition growth retardation was generally observed. For example, the average height of all children between 1 and 3 years of age fell below the average height reported for children in the U.S.A.

Biochemical analyses revealed traits characteristic of poorly nourished populations:

(a) One third of the children under six years of age had unacceptable hemoglobin levels.

(b) One third of the same age group had Vitamin A levels in the unacceptable range.

(c) Serum Vitamin C levels were less than acceptable in 12-16 percent of all age groups.

(d) One sixth of the overall population had unacceptable levels of serum protein.

(e) One sixth of the overall population had low levels of serum albumin.

(f) Nineteen percent of the population had less than acceptable levels for urinary riboflavin.

(g) Nine percent of the population had less than acceptable levels of thiamin.

In general, the most widespread nutritional problem was that of multiple nutrient deficiency a condition encountered in the developing countries in extreme cases of malnutrition.

A contributing factor to malnutrition was a lack of knowledge concerning the principles of good nutrition. The one clear cut point that can be made at this stage of the survey is the need for improved nutritional education for mothers and for all other persons concerned with food purchasing and meal planning.

APPENDIX C

NUTRITION PROGRAMS IN THE U.S. Dr. O. L. Kline

SUMMARY

Dr. Kline limited his presentation to programs in government agencies and assumed prior knowledge of Department of State programs.

Programs exist in the Department of State, Agriculture, Defense, HEW, Interior and several of the independent agencies.

1. Department of Agriculture

   (a) The cooperative extension service conducts in each of the states informal out-of-school educational programs in agriculture and home economics.

   (b) USDA through the National School Lunch program provides funds for food purchases, makes selected foods available to the schools at no cost, and provides management and menu planning assistance.

   (c) The Agricultural Research Service through the State Experiment Station, the Consumer and Food Economics Division, the Human Nutrition Research Division and the Utilization Laboratories is concerned with improvements in food technology, the determination of human nutrient requirements, the nutritive value of foods and food consumption patterns.

   (d) The foreign Agricultural Research program uses PL 480 funds to develop nutrition program overseas.

   (e) USDA also provides the foods donated under the Food for Peace Program.

2. Department of Defense

   The Army has been assigned responsibility for most food projects in the Department of Defense.

(a) The Life Science Division is concerned with basic research on the safety, availability, stability and nutritional value of Army rations.

(b) The Army Material Command through its laboratories at Natick, Massachusetts has responsibility for the development of new rations.

(c) The Office of the Chief of Support Services, as part of its responsibility for feeding the Armed Services, conducts acceptability studies of army rations.

(d) The Defense Department in the past funded the Inter-departmental Committee on Nutrition and National Defense (ICNND) which conducted nutrition surveys-first on the military and later on civilian population in developing countries.

(e) The Air Force is involved in space feeding programs.

(f) The Navy is studying the problem of obesity, the effect of malnutrition during pregnancy on the nutritional status of the offspring, and nutritional anemia.

3. Department of Interior through its Bureau of Commercial Fisheries has been instrumental in developing the technology for the preparation of Fish Protein Concentrate.

4. Health, Education and Welfare

(a) The Food and Drug Administration is responsible for the regulations on safety of foods.

(b) The Childrens Bureau in the Social and Rehabilitation Service of HEW develops educational material and guidelines for public health personnel and for child health centers and hospitals.

(c) The Public Health Services Nutrition program has evolved from the ICNND and contains both domestic and international sections devoted to conducting nutritional surveys.

(d) The National Institutes of Health have no centralized nutrition program but nutrition oriented research is conducted at the several institutes. Studies on fat soluble vitamins, hospital dietetics and fluoridation of water are examples of such research.

5. NASA has the overall direction of problems of space feeding.

6. The Atomic Energy Commission has pioneered in the use of radiation for the pasteurization of foods.

7. The Veterans Administration has concentrated its research in nutrition on trace mineral deficiencies.

The Food and Nutrition Board of the National Academy of Sciences, although not a government agency, has served as an advisory body to government agencies on policies for enrichment of foods and as a source of information on the dietary allowances for nutrients.

APPENDIX D

NUTRITION PROGRAMS OF THE INTERNATIONAL ORGANIZATIONS — Mrs. A. Sismanidis

SUMMARY

Nutrition is of major concern both to the UN and to UN agencies including FAO, WHO, UNICEF, UNESCO, ILO and PAF. These agencies all work closely together.

1. FAO emphasis is on nutrition in relation to production, distribution and consumption. Programs are concerned with:
   (a) Food consumption
   (b) Applied Nutrition
   (c) Food Science
   (d) Home Economics
2. WHO programs in nutrition relate to the maintenance of health and prevention of disease. Programs are concerned with:
   (a) Medical assessment of nutritional status
   (b) Nutrition in periods of stress (adolescence, pregnancy, lactation)
   (c) Nutrition and infection in malnourished populations.
   (d) Studies of the prevalence and methods of curing and/or preventing (1) nutritional anemia, (2) Vitamin A deficiency, (3) rickets, and (4) endemic goiter.
   (e) Applied nutrition directed particularly to raising the level of nutrition of mother and children in rural areas.
   (f) Protein and calorie malnutrition.
   (g) The establishment of food standards.
3. UNICEF is concerned with programs benefiting children. The main efforts are directed to long term projects. FAO and WHO provide the technical backstopping.

   Programs are concerned with (a) applied nutrition both in rural and urban areas. Approaches include education of mothers, development of

weaning foods, arranging for their manufacture, etc.

4. Protein Advisory Group (PAG) participating agencies include FAO/WHO/UNICEF. The purpose is to assist and coordinate work on projects involving the supply and consumption of proteins.

   Assistance from manufacturing through marketing is available.

5. UNESCO is concerned with the teachers' role in nutrition education particularly in primary schools.

6. ILO nutrition programs are devoted to group feeding and vocational training.

APPENDIX E

LIST OF DELEGATES

INDIA	-	Jim Levinson, Charles Putkammer, FFP Officer Francis Gulick, FAN Project Officer
PAKISTAN	-	Alfonso D. Dominguez, Food for Peace Officer
JORDAN	-	Frederick Thomas, Regional FFP Officer
PHILIPPINES	-	R.W. Engel, Nutrition Advisor, Denny Scott, Food for Peace Officer
THAILAND	-	William S. Smith, M.D., Public Health Advisor
INDONESIA	-	Ain Kivimae, Asst. Food for Peace Officer
SENEGAL	-	Bill Pearson, Food for Peace Officer
TUNISIA	-	Leonard Kornfeld, Program Economist Nassib Hemaidan, Nutrition Advisor
NIGERIA	-	Roger Sprowls, Food for Peace Officer
GHANA	-	Judy Constable, Food for Peace Officer
MOROCCO	-	John S. Alden, Food for Peace Officer
BRAZIL	-	Mrs. Marion Frazao, Nutrition Advisor Peter Davies, Food for Peace Officer
BOLIVIA	-	Charles Gill, Food for Peace Officer
CHILE	-	Gordon Prouty, Food for Peace Officer
COLOMBIA	-	Robert Lester, Food for Peace Officer
DOMINICAN REPUBLIC	-	Buddy Dodson, Food for Peace Program Asst. Burlin Hamer, Food for Peace Officer
GUATEMALA	-	Charles E. Mettam, Food for Peace Officer
PERU	-	Richard Apodaca, Food for Peace Officer
MEXICO	-	David Amato, Training Officer
VIETNAM	-	Dr. Isaiah A. Jackson, Health Officer

AID/WASHINGTON

Department	
WOH/ARDS	Alvin Ayers
PS	E. Randall Backlund
A/AID	Joel Bernstein
WOH/FFF	C. Cabooris
WOH/FFF	Frank Ellis
WOH/NCF	Martin J. Forman
AA/WOH	Irwin R. Hedges
WOH/NCF	Joyce Hooks
WOH/NCF	Irwin Hornstein
WOH/HS	Lee Howard
LA/ID (OIH)	Evelyn Johnson
NESA/TECH	R. Wade Jones
PRR/PRDS	Joan Kain
WOH/NCF	H. C. Ladenheim
PPC/TA	Ken Levick
WOH/FFS	George Parman
WOH/NCF	Amy Pound
NESA/TECH	John Raber
WOH/RIG	J. L. Fanft
WOH/RIS	Jerry Rosenthal
WOH/FFF	Peggie Sheehan

WOH/NCF (HEW)	Andromache Sismanidis
WOH/ARDS	Howard Sprague
WOH/RIG	Carol Steele
WOH/PES	Robert Weil

OTHER CONTRIBUTING SPECIALISTS

USDA/IADS	Aaron A. Altschul
AMERICAN TECHNICAL ASSISTANCE CORPORATION	Solomon Chafkin
CANTOR ASSOCIATES	Sidney Cantor
D/HEW	Gerald Combs
JOHNS HOPKINS UNIVERSITY	Nicholas Cunningham
SCIENTIFIC & TECHNICAL ADVISORY COMMITTEE	E. E. Howe
PEACE CORPS	Shelby Jacobs
EXECUTIVE DIRECTOR, PATHFINDER FUND	Elton Kessel
ASST. VICE-PRESIDENT GRANTS RESEARCH FOUNDATION	Kendall King
AMERICAN INSTITUTE OF NUTRITION	O. L. Kline
COLUMBIA UNIVERSITY	Guy Livingston
USDA/IADS	Daniel Rosenfield
USDA/IADS	Lyle Shertz
SCIENTIFIC & TECHNICAL ADVISORY COMMITTEE	Henry Sebrell
L.I.F.E.	Samuel Weisberg
SCIENTIFIC AND TECHNICAL ADVISORY COMMITTEE	Harold Wilcke

Appendix F

"MOTHERCRAFT" CENTERS

The concept of the "Mothercraft" Center which started in Haiti, is an outgrowth of the Nutrition Rehabilitation Center. It is designed (a) to improve the nutrition of the most malnourished pre-school children of a given community by intensive feeding of these children and (b) to ensure the continuation of good nutrition by educating the mothers in nutrition and child care.

In the "Mothercraft" Centers, the most malnourished children of a given community are given intensive feeding daily or 5-6 days a week at a community center for a 3-4 month period. The mothers, who are required to participate one day a week by assisting in the preparation of the food and in the care and feeding of the children, are given instruction in nutrition, meal planning, food preparation, marketing and general child care.

The emphasis is on teaching the mothers how to provide a good diet for their families from foods available locally. Imported foods, such as PL-480 commodities, may be used to supplement the locally available foods only if they are of a kind similar to those available locally; for example, cornmeal if corn is already a part of the local diet.

The setting in which this work is done is a building similar to those available in the community and equipped simply with equipment and utensils used in the homes.

The cost of operating these centers is about $2,000 per center per year. This is very low compared with the cost of hospital care of severely malnourished children. The day-to-day operation of the center is carried on by a young girl from the community who has been trained for this work. Analysis of the local foods is done in advance, and menu cycles for the centers are prepared by a nutritionist to provide the essentials of a good diet. Overall supervision is given by the medical officer.